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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,764	01/24/2002	Albert Marion Beaty	65250-001	4600
27305	7590	06/16/2004	EXAMINER	
HOWARD & HOWARD ATTORNEYS, P.C. THE PINEHURST OFFICE CENTER, SUITE #101 39400 WOODWARD AVENUE BLOOMFIELD HILLS, MI 48304-5151			FONTAINE, MONICA A	
ART UNIT		PAPER NUMBER		1732

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/056,764	BEATY, ALBERT MARION	
	Examiner Monica A Fontaine	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 April 2004.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3-10 and 13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 January 2002 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

**DETAILED ACTION**

This office action is in response to the Amendment filed 2 April 2004.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-8, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satake et al. (U.S. Patent 5,085,819), in view of Mink et al. (U.S. Patent 5,882,750). Regarding Claim 1, Satake et al., hereafter "Satake," show that it is known to carry out a method of fabricating a heat resistant article (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of combining a thermoplastic and silica into a compound (Column 3, line 44 - Column 4, line 27; Column 10, line 58 - Column 11, line 5), heating the compound (Column 4, lines 28-37), and forming a hollow tank with the compound (Column 3, lines 8-16; Column 11, line 64 - Column 12, line 4; It is noted that it would be obvious to injection mold a tank with a fill opening in order to produce a practical container.) Although Satake shows a method wherein the combining is further defined as mixing granules of the thermoplastic with a filler (Column 17, lines 13-19), he does not explicitly show mixing granules of the thermoplastic with a filler of powdered amorphous silica. Mink et al., hereafter "Mink," show that it is known to mold a fuel tank using a thermoplastic resin granules and a powdered amorphous silica

(Column 3, lines 9-17; Column 5, lines 8-37). Mink and Satake are combinable because they are concerned with a similar technical field, namely, that of molding processes which produce heat and effusion resistant containers (See Satake, Column 1, lines 25-38 and Mink, Column 3, lines 9-17). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica in Satake's molding process in order to take advantage of certain chemical properties of amorphous silica.

Regarding Claim 3, Satake shows the process as claimed as discussed in the rejection of Claim 2 above, including a process that includes heating the compound to a viscous form (Column 20, lines 50-64; It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".), meeting applicant's claim.

Regarding Claim 4, Satake shows the process as claimed as discussed in the rejection of Claim 3 above, including a process that includes heating the compound to a temperature of between 200 and 500 degrees Fahrenheit (Column 20, lines 42-49), meeting applicant's claim.

Regarding Claim 5, Satake shows the process as claimed as discussed in the rejection of Claim 4 above, including a process further defined as heating the thermoplastic to a viscous condition (It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".) and then adding a filler (Column 17, lines 13-19). Satake does not explicitly show mixing granules of the thermoplastic with a filler of powdered amorphous silica. Mink shows that it is known to use an amorphous silica as a powdered ingredient in a composite resin

(Column 5, lines 8-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica as the powdered filler in Satake's molding process in order to take advantage of certain chemical properties of an article made with amorphous silica.

Regarding Claim 6, Satake shows the process as claimed as discussed in the rejection of Claim 5 above, including a process further defined as compounding the thermoplastic and filler in an extruder (Column 17, lines 20-25). Satake does not explicitly show compounding the thermoplastic with a filler of amorphous silica. Mink shows that it is known to use an amorphous silica as a powdered ingredient in a composite resin (Column 5, lines 8-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica as the powdered filler in Satake's molding process in order to take advantage of certain chemical properties of an article made with amorphous silica.

Regarding Claim 7, Satake shows the process as claimed as discussed in the rejection of Claim 6 above, including a process that extrudes the compound into a strand and dividing the strand into pellets of the homogeneous compound (Column 17, lines 26-27), meeting applicant's claim.

Regarding Claim 8, Satake shows the process as claimed as discussed in the rejection of Claim 7 above, including heating the pellets of the compound into a viscous condition (It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".) and molding the article (Column 17, lines 34-38; It is noted that it would be obvious to mold a fuel tank by this process, as this application is clearly identified by Satake.).

Regarding Claim 10, Satake shows that it is known to carry out a method of fabricating a heat resistant article (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of heating and mixing pellets of a thermoplastic with a filler into a viscous compound (Column 3, line 44 - Column 4, line 27; Column 17, lines 13-27; It is noted that any material at any temperature will have a viscosity and can therefore be described as being in “viscous form”.), and forming a hollow tank with the compound (Column 3, lines 8-16; Column 11, line 64 - Column 12, line 4; It is noted that it would be obvious to injection mold a tank with a fill opening in order to produce a practical container.) Satake does not show using an amorphous silica as his filler. Mink et al., hereafter “Mink,” show that it is known to mold a fuel tank using a thermoplastic resin and a powder of amorphous silica (Column 3, lines 9-17; Column 5, lines 24-37). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Mink’s amorphous silica in Satake’s molding process in order to take advantage of certain chemical properties of amorphous silica.

Regarding Claim 13, Satake shows that it is known to carry out a method of fabricating a heat and effusion resistant fuel tank (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of combining a thermoplastic and silica into a compound (Column 3, line 44 - Column 4, line 27; Column 10, line 58 - Column 11, line 5), adding the compound into an extruder (Column 4, lines 28-37), heating the compound (Column 4, lines 28-37), extruding the compound into a strand, cooling the strand into a solid, and dividing the strand into pellets of the homogeneous compound (Column 17, lines 26-27), pouring the pellets into a barrel of a molding machine, heating and mixing pellets of a thermoplastic with a filler into a viscous compound (Column 3, line 44 -

Column 4, line 27; Column 17, lines 13-27; It is noted that any material at any temperature will have a viscosity and can therefore be described as being in “viscous form”), and forming a hollow tank with the compound (Column 3, lines 8-16; Column 11, line 64 - Column 12, line 4; It is noted that it would be obvious to injection mold a tank with a fill opening in order to produce a practical container.). Although Satake shows a method wherein the combining is further defined as mixing granules of the thermoplastic with a filler (Column 17, lines 13-19), he does not explicitly show mixing granules of the thermoplastic with a filler of powdered amorphous silica. Mink shows that it is known to mold a fuel tank using a thermoplastic resin granules and a powdered amorphous silica (Column 3, lines 9-17; Column 5, lines 8-37). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Mink’s amorphous silica in Satake’s molding process in order to take advantage of certain chemical properties of amorphous silica.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satake and Mink as applied to claims 1-8 above, and further in view of Hayes et al. (U.S. Patent 5,904,888). Satake and Mink shows the process as claimed as discussed in the rejection of Claims 1-8 above, but they do not specify a certain composition of the molding material. Hayes et al., hereafter “Hayes,” show that it is known to mold containers having very good mechanical and chemical-resistant properties using a composite material wherein powdered filler is in the range of 10% to 30% by volume in the material (Column 3, line 59- Column 4, line 10). Hayes and Satake are combinable because they are concerned with a similar technical field, namely, that of molding mechanically and

chemically stable articles using a composite resin. It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use a molding material of Hayes' composition in the process of Satake and Mink in order to take advantage of the molded quality of articles having filler composition from 10% to 30%.

***Response to Arguments***

Applicant's arguments filed 2 April 2004 have been fully considered but they are not persuasive.

Applicant contends that the Satake document does not teach a process which mixes granules of a thermoplastic with a powder of amorphous silica. This is not persuasive because Satake was cited to show mixing of thermoplastic granules with silica in general. To teach the powder of amorphous silica, Mink was cited and combined with Satake.

Applicant contends that the Mink document does not teach the details of the molding operation (see page 9, paragraph 1, lines 2-11 of applicant's response). This is not persuasive because Mink was cited to show the use of powdered amorphous silica with granules of thermoplastic to form heat resistant articles such as fuel tanks (Column 3, lines 9-18). The primary reference (Satake) clearly teaches the specific molding steps, as well as generally combining thermoplastic granules with silica.

Applicant contends that the combined teachings of Mink and Satake do not teach the instant invention because there is no motivation to use Mink's amorphous silica in Satake's thermoplastic-silica molding process. This is not persuasive because Mink's

disclosure that his “compositions of the invention can be extruded...and injection or blow molded into articles...articles include bottles, containers, fuel tanks, and drums” (Column 3, lines 9-18) provides ample motivation for its combination with Satake, who discloses molding heat-resistant containers using a mixture of thermoplastic granules and silica.

Applicant contends that using Mink’s amorphous silica in Satake’s process will reduce the likelihood of even distribution of the amorphous silica relative to the thermoplastic material within the mixture. This is not persuasive because there is no indication that adding Mink’s composition into Satake’s method will cause reduced even distribution of silica and thermoplastic, and the mere arguments of counsel cannot take the place of evidence in the record (See MPEP 2145).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1732

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A Fontaine whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maf  
June 7, 2004



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